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Sign Him Up, Coach!—Western World track and field athletes this spring threaten to crash at least two stubborn record barriers—the four-minute mile and the seven-foot high jump. Long-legged Watusi tribesmen of Ruanda, central Africa, clear the high-jump bar at seven feet, six inches, but take off from a foot-high termite mound.

MARJORY COLLINS—RAPHO-GULLUMETTE

UMI

On May 5, 1862, a new aggressor, a crack French army of 6,000 under orders of Napoleon III, attacked Puebla.

Defending was a Mexican force estimated at 4,000 men. Only they stood between Napoleon and his ambition to make Mexico a colony. But what the Mexican patriots lacked in numbers and training they made up in courage and fierce resentment. They soundly thrashed the invaders.

The victory was short-lived, but it touched off a spark that smoldered through the ensuing unhappy years. In 1863 Puebla fell before 30,000 fresh French troops who marched on to Mexico City and established Napoleon's New World empire under the puppet rule of the misguided but well-meaning Maximilian of Austria.

Emperor Without an Empire—Napoleon led Maximilian and his wife Carlota to believe that the Mexican people eagerly awaited them. Instead of cheering throngs, however, sullen silence greeted them at Veracruz and on the lonely drive through Puebla and other towns to Mexico City.

Capital aristocrats welcomed the royal couple with ceremony but the man in the street taunted them: "So you're here, Maximilian! And now that you've come, What's left of you, my brother, Is going to remain."

This mocking prophecy came true. Maximilian was captured by Juárez, the implacable Indian leader, and executed on June 19, 1867. He had been abandoned by Napoleon who withdrew his troops after a warning by the United States. From the beginning, Mexico's northern neighbor had regarded the French adventure as a violation of the Monroe Doctrine, but had been too embroiled in its own trouble—the Civil War—to interfere.

"For the Good of This Land"—Maximilian's last words were: "May my blood that is about to flow be for the good of this land." Thus ended an era in a nation which, though shaped like a horn of plenty, had not fully benefited from its natural wealth. Mexico's 760,375 square miles have given up uncounted treasures in oil, gold, silver, and many other minerals and metals. The bounty of land and water makes stock raising, fishing, forestry, and agriculture important.

Mexico is one of the world's largest producers of coffee. About half the world's sisal comes from its Yucatan Peninsula. Corn, chick-peas, cotton, beans, rice, wheat, sugar cane, tobacco, and bananas are valuable crops. Industrially, the nation forges ahead.

Two towering ranges form barriers along each coast—almost like two backbones converging to a V pointing southward. Between them suspends a high central plateau representing a third of the total area and supporting half of Mexico's 27,000,000 population. Mexico City itself lies at a cool and healthful 7,350-foot altitude.

References—Mexico appears on the National Geographic Society's map of Mexico and Central America. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

See also "Experiment in International Living," in *The National Geographic Magazine*, March, 1953; "Lost Kingdom in Indian Mexico," October, 1952; "Mexico's Booming Capital," December, 1951; "Down Mexico's Río Balsas," August, 1946; "On the Cortés Trail," September, 1940; and, in the GEOGRAPHIC SCHOOL BULLETINS, November 16, 1953, "Coffee Paces Mexico's Progress"; and "Supermarkets Threaten Mexico's 'Mercados'," February 23, 1953. *(Issues of The Magazine 12 months old or less are available to schools and libraries at a specially discounted price of 50¢ a copy. Earlier issues are 65¢ a copy through 1946; $1.00, 1930-1945; $2.00, 1912-1929. Write for prices of issues prior to 1912.)*

UMI

ENRIQUE C. CANOVA

Mexicans Love a Parade—From broadbrimmed sombreros to saddle-hung *serapes*, horsemen prancing down a Puebla street present a riot of color for the annual *Cinco de Mayo* festival. Such *charro* costumes, often expensively made of doeskin, include bolero jackets, skintight breeches, and silver ornamentation.

Bulletin No. 1, May 3, 1954

Mexico Celebrates the "Cinco de Mayo"

The phrase *Cinco de Mayo* rings in Mexican hearts in the same manner that "Don't fire till you see the whites of their eyes" resounds through American history. It means simply "fifth of May" but it commemorates a proud occasion—the day 92 years ago this Wednesday when Mexicans rose in mighty wrath and defeated a superior foreign army at Puebla.

Hardly a town or city south of the border is without its avenue, street, or plaza bearing the stirring name Cinco de Mayo. Puebla, of course, heads the list, just as it leads the republic in joyous celebration every May 5.

Puebla now ranks as Mexico's fourth city (230,000). It stands 75 miles southeast of Mexico City on the road from Veracruz to the capital. The conquistador Cortés, in 1519, passed near by, and American General Winfield Scott's troops knew it in 1847.

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In all Java, the outstanding example of Buddhist architecture is Borobudur. This massive series of terraced stone shrines stands in restored form about 25 miles northwest of the Prambanan temples.

In bygone days the chief rival of Borobudur was probably Loro Jonggrang. While Borobudur was architecturally impressive because of its enormous size, Loro Jonggrang was noted for the number of its structures. More than 150 individual temples were ranged on three tiers surrounding the center group of six principal temples.

Tenth Century Ended an Era—The Golden Age in mid-Java ended suddenly and mysteriously after the tenth century. Political power shifted from the dynasties of the central part of the island to those of the east. Religion changed as well. Gradually both Buddhist and Brahman faiths faded and the religion of Islam took their places. Arab and Moslem missionaries and traders vigorously spread their creed over the island between the 14th and 16th centuries.

Today more than nine tenths of the Javanese people are Moslems. Their faith in the Koran, however, has by no means destroyed their old primitive beliefs in spirits, charms, and witch doctors. Rural folk still repeat the old Hindu legends and make the traditional offerings of fruit and flowers to the gods of ancient Hindu temples.

The restoration of Loro Jonggrang marks the first stage of plans to revive Java's artistic past. Begun in the 1880's under the government of the Netherlands, the work has been delayed by necessary research and handicapped by the loss of many of the original stones. It was further held up by Japanese occupation of the Indies during World War II and the struggle for Indonesian independence that followed.

ALFRED T. PALMER

References—Java may be located on the Society's map of The Far East.

See also "Republican Indonesia Tries Its Wings," in *The National Geographic Magazine*, January, 1951; "Postwar Journey Through Java," May, 1948; "The Face of the Netherlands Indies" (20 photographs), February, 1946; and, in the GEOGRAPHIC SCHOOL BULLETINS, October 13, 1952, "Hunger Haunts Rich Indonesian Republic."

Stone Temple "Bells"—Hundreds of these *stupas* adorn the terraces of Borobudur. Each contains an image of the seated Buddha, hands folded, palms up. Mt. Merapi provides the background.

Bulletin No. 2, May 3, 1954

Java Restores Its Ancient Temples

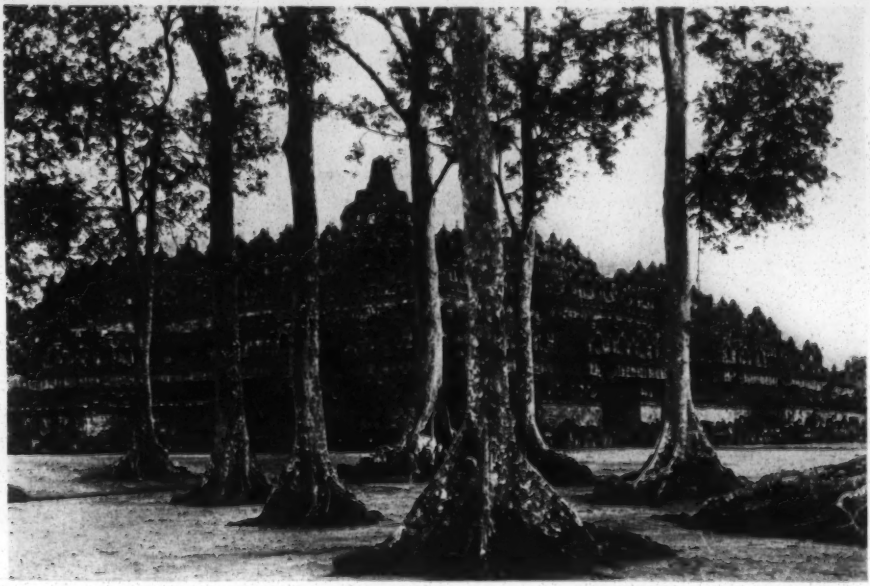
The ancient Hindu temples of Prambanan, long threatened by vandals, wars, and decay, are rising again under tropical blue skies near Djokjakarta in south-central Java.

The first to be completed is a monument to the Brahman god Siva. This huge, elaborately carved structure crowns the temple group known as Loro Jonggrang. At official restoration ceremonies held recently, the president of the Republic of Indonesia hailed the achievement as a symbol of the rebirth of the nation's independence.

Art from India—Loro Jonggrang was built in the Golden Age of Java's architecture. During this period, lasting from the seventh to the tenth century A. D., the religious art brought to central Java by early Indian colonists reached its greatest beauty.

The Loro Jonggrang cluster (built about 900) was only one of the many temple groups that dotted the plain outside the old Hindu capital of Mendang Kamulan, now called Prambanan.

Some of these temples were dedicated to Buddhism. Others, like Loro Jonggrang, honored Brahma, Siva, and Vishnu, the triple deities of Brahmanism—the religion of the Hindus. At one time the two rival sects flourished side by side.



W. ROBERT MOORE, NATIONAL GEOGRAPHIC STAFF

Borobudur Rivals Great Pyramid—India's influence on Javanese culture is reflected in the structural giant behind the trees. Hundreds of bell-shaped spires (see close-up picture below) stud the stone terraces of this great Buddhist temple built in central Java about A. D. 850. The terraces surround a solitary hill. Two miles of exquisite carvings on the vertical walls portray the life of Buddha.

ago. Indians, most of them Hindus, are in the majority. After 1834 when the British abolished slavery, Indians were brought from Madras and Bengal to work the sugar plantations. Chinese immigrants, mostly shopkeepers, have also helped convert Mauritius into a miniature Orient.

But the island retains much of the old French atmosphere. Most place names are in French, which is the language of the newspapers and of the schools. The European population of about 20,000 is largely of French descent, and many still call their island "Ile de France."

When the Dutch in 1598 took over the island from the Portuguese, who seemed to have lost interest, they named it Mauritius after their Count Maurice of Nassau. They introduced sugar cane and cotton, exploited the ebony forests, and finished off the dodo. Rats and revolting slaves (which the Dutch themselves had brought from Madagascar) made things difficult. The Dutch departed and the French moved in.

French occupation made the deepest impression on the island. By the time the British came during the Napoleonic wars, Mauritius was a prosperous colony of 60,000, a supply depot for French fleets fighting the British in the Indian Ocean. By the Treaty of Paris, 1814, Mauritius and a number of outlying islands were ceded to Britain. Although the British adopted the old Dutch name, they permitted the inhabitants to retain their accustomed speech and way of life.

References—Mauritius is shown on the Society's map of the Indian Ocean.

See also "At Home on the Oceans," in *The National Geographic Magazine*, July, 1939; and "Around the World in the 'Islander'," February, 1928.

Port Louis's Harbor Is Deep—Sugar fills the hold of most of the cargo ships departing the capital of Mauritius. Mountains rim the city in amphitheater style.

F. L. PETERSON

Bulletin No. 3, May 3, 1954

Stamps and Dodo Spread Renown of Mauritius

"Garden of Eden" to early explorers sailing the Indian Ocean, the island of Mauritius is best known for its postage stamps and its long-extinct dodo. Many nations have had a hand in its development.

The Portuguese discovered it, the Dutch named and settled it, and the French began the extensive cultivation of its fertile volcanic soil. The British now govern it, although Indians and Chinese dominate its agriculture and commerce, and French is its common language.

Half Size of Long Island—Located 1,200 miles east of Africa and half as far east of Madagascar, Mauritius is densely populated. Within its 720-square-mile area live nearly half a million people.

Still the most famous native of Mauritius is the clumsy, oversize pigeon that is no more—the dodo. When the Portuguese discovered the island one of its few inhabitants was the awkward bird with a body larger than a turkey's and wings so small that it couldn't fly. Its legs were so short it was all the creature could do to waddle about.

The Portuguese named it *duodo*, their word for "simpleton." Although no one has seen a dodo since 1681, its name has not vanished, but is frequently heard in the phrase "dead as a dodo." From bones dug up, it has been possible to assemble skeletons of these vanished Mauritians. Two are on display in the Natural History Museum at Port Louis.

The island's capital and chief commercial center is Port Louis on the northwest coast. With its suburbs, the city had some 76,000 residents at a recent estimate. Most Europeans live in the residential town of Curepipe, about 20 miles south on the Plaines Wilhems, 1,800 feet high.

Irregularly oval in shape, Mauritius is nearly surrounded by coral reefs. From a shore line fringed with casuarina and coconut palm trees, the land slopes gradually up to a mountain-rimmed plateau. Oddly irregular mountain outlines pattern fantastic silhouettes against the sky. The highest peak, Black River Mountain, rises 2,711 feet in the southwest.

Short rivers rush down mountain slopes during the period of greatest rainfall—the island's summer, from December to May. When the rains slacken, the streams dwindle to mere brooks. Some of their heavier waterfalls have been harnessed to supply hydroelectric power.

The climate of Mauritius is mild and pleasant although cyclones sometimes sweep down from the northeast with disastrous force.

Sugar Is King Crop—All over the island fields of sugar cane spread their light green carpet. Introduced by the Dutch, and later extensively cultivated by the French, sugar is now the chief industry. It accounts for nearly 98 per cent of the value of the island's exports.

During World War II many valleys once planted to sugar cane were given over to such locally needed crops as corn, rice, and sweet potatoes. Production of tea was also stepped up to supply home demand.

Postwar exports of Mauritius include, in addition to sugar and its by-products, copra, aloe fiber for cordage and bags, and coconut oil.

The human population of Mauritius has reversed the procedure of the dodo and greatly increased. It is now triple what it was a century

birds. Their black-edged wings, eight to ten feet in spread, are a startling contrast to their snow-white bodies.

Fly Herd on the Fish—When they fly, the pelicans look like Monday's wash blowing into the blue. Feeding on the lake, the birds form semicircles and beat their wings against the water to herd fish into the shallows. They scoop them up in their pouchy bills, all the while swimming majestically along.

Pyramid, Walker, and Winnemucca lakes, grouped in western Nevada, are brackish remnants of an ancient body of water that geologists call Lake Lahontan. Once it covered 8,500 square miles in Nevada and California. Lake Bonneville in Utah, of which Great Salt Lake is the remainder, was a sister sea.

Hundreds of feet above Pyramid Lake's present level, etched on Nevada's mountain sides, are the ancient beaches of Lahontan. Other white lines show on the lake shore itself, for Pyramid is still shrinking. Increasing use of the Truckee River waters for irrigation has cut down the lake's inflow. As the lake goes down, its salt content increases and its fish struggle to survive.

Pyramid Lake takes its name from its steep-sided islands. The highest rises 475 feet. Lake and islands were found in 1844 by the exploring party under John C. Fremont. He wrote of having discovered a natural duplicate of the Great Pyramid of Khufu. One of the party was Kit Carson, noted frontiersman.

Giant Trout Made Lake a Fisherman's Paradise—The lake and its inflowing river were rich in giant salmon trout known today as cutthroat, the black-spotted, or the Tahoe trout, and another sweet-fleshed fish the Indians called cui-ui (kwee-wee). A trout weighing 64 pounds was caught in the lake years ago.

In 1860 two pitched battles were fought near Pyramid between Indians and the gold and silver seekers who poured into Nevada after the Washoe strike of 1859. The Indians fled north into the emptiness of Smoke Creek and Black Rock deserts, and turned to raiding covered-wagon trains and the Pony Express route across Nevada.

Today Pyramid Lake Indian Reservation is the home of Paiute and other Nevada tribes. During World War II the Navy built an air base in the vicinity, and over the lake pilots practiced launching torpedoes. Sailors ran small boats over its waters, keeping company with the pelicans.

References—Pyramid Lake may be located on the Society's map of the Southwestern United States.

For additional information on the region, see "Nevada Learns to Live with the Atom," in *The National Geographic Magazine*, June, 1953; "Nevada, Desert Treasure House," January, 1946; and "Pelican Profiles," November, 1943.

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UMI

LEWIS WAYNE WALKER

Sublime in Flight, Ridiculous Afoot—White pelicans use wings and tails as brakes. Islands on lakes in hot desert country suit their summer nesting plans. The horny knobs on their bills are mating-season adornments. Adults weigh 15 to 17 pounds.

Bulletin No. 4, May 3, 1954

Indians and Pelicans Fish Pyramid Lake

"It can't possibly be real! We must be on the moon!" exclaimed a visitor to Pyramid Lake, Nevada.

Out of this world it may appear, but the lake also shows on the Nevada map. Little known, though it is 30 miles long by about ten miles wide, Pyramid Lake lies cupped in bone-dry desertland north of Reno amid rocky rust-colored mountains.

The Indians who live along its shores fish in clear blue water almost too bitter to drink. Hot springs laden with chemicals spout into the lake, crusting islands and shore line with mineral deposits in weird shapes. The Truckee River runs into Pyramid Lake, but the only outlet is straight up—by evaporation.

Desert Majesty—Some 10,000 great white pelicans, the real lords of the lake, nest on an island, giving it the effect of a blanket of snow. The Anaho Island National Wildlife Refuge is the largest pelican rookery in the Western United States.

Among the sun-baked rocks and low desert shrubs waddle the newly hatched pelican chicks. Although they seem the ugliest of creatures, they eventually develop into one of the world's most beautiful water

Canada describing new finds of dinosaur footprints and fossil bones.

The word dinosaur is derived from two Greek words meaning "terrible lizard." It describes not one but several groups of the reptiles of Mesozoic time. Most primitive were the thecodonts (teeth-in-sockets), ancestors of all dinosaurs and of primitive birds.

The thecodonts gave rise to flying reptiles such as the pteranodont (wings-without-teeth) and the smaller pterodactyl (winged fingers). They preceded the two great groups to which the word dinosaur is often limited—the saurischians (lizard hips) and the ornithischians (bird hips). The Greek names tell the story of their basic difference—hip-bone structures.

Most of the saurischians walked on their hind legs and ate meat. Largest and most ferocious flesh eater was the giant tyrannosaur (tyrant lizard). Complete tyrant of the second half of the long rule of dinosaurs, it walked on powerful hind legs, stood 20 feet high and 45 feet in length, and could tear other dinosaurs apart with its large mouth full of daggerlike teeth. The allosaur (leaping lizard) was a fierce flesh eater resembling the tyrant, but was smaller (33 feet) and much earlier in time.

King-sized Hay-burners—The lizard-hipped group also included the sauropods (lizard-footed), whose many species included the very largest dinosaurs—the brontosaur (thunder lizard), brachiosaur (large-foreleg lizard), and diplodocus (double-beam). Giant sauropods reached lengths of as much as 80 feet and weights of more than 40 tons. They were plant eaters and lived in swamps both to escape the meat eaters and to let the water support some of their weight (illustration, next page).

Moving on four feet, the sauropods had small heads on long slender necks and long tails almost whiplike at the end. With nostrils above their eyes, they could breathe when all but submerged.

Sands-of-time Footprint—Low water in Paluxy Creek near Fort Worth, Texas, reveals this 18-gallon print left by a 30-ton brontosaur.

ROLAND T. BIRD

The ornithischians, or bird-hipped dinosaurs, were all plant eaters. Most, not all, walked on four feet. One of the largest, the trachodont (rough-toothed), was among the numerous duck-billed species. Triceratops (three-horned face) was a sort of armored rhinoceros with a parrotlike beak on its snout and a bone shield protecting neck and shoulders.

Even better armored was the stegosaur (roofed lizard), twice large-elephant size,

NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

Duck-billed Dinosaur—Poor teeth but plenty of them (1,100) helped this 26-foot reptile of 80,000,000 years ago chew swamp vegetation in what is now Wyoming. Students, young and old, visiting the Smithsonian Institution in Washington, D. C., view one of the world's most complete dinosaur collections.

Bulletin No. 5, May 3, 1954

Dinosaurs Ruled Earth for 130,000,000 Years

The cold-blooded reptiles known as dinosaurs ranged on every continent of the earth through the 130,000,000-year period scientists call the Mesozoic era. They ruled all they surveyed but, mysteriously, their dominion ended in extinction at least 60,000,000 years ago.

Man by comparison is a newcomer. Alley Oop to the contrary, man's most primitive ancestors date from long after dinosaurs—not more than 1,000,000 years ago.

"Terrible Lizard"—Well aware of his present supremacy over other forms of life, man thirsts for knowledge of the rise and fall of the creatures that reigned so long in the distant past.

Recently stories have come from Great Britain, Australia, Sweden, North Africa, Russia, and virtually every part of the United States and

with a double row of spine plates. "Steggy" was a shining example of a back-seat-driven dinosaur, having an auxiliary brain space far back on its spine 20 times the size of its forward think-tank. Even in the 40-ton sauropods, brains weighed only a few ounces.

Dinosaurs were not all large by any means. In all, there were probably 5,000 different species, some no larger than a chicken in size. The hoplosuch, an early arrival, was seven and a half inches long.

Still Make Headlines—"Lack of sun killed dinosaurs." "Dinosaurs were wiped out by heat." "Dinosaurs were too stupid to survive." These are recent headlines explaining why the reptile rulers disappeared, leaving only the crocodiles and alligators as descendants. Perhaps disease struck them as indicated by some fossil remains.

Likeliest reason of all, however, is that geological and climatic changes robbed them of the temperate swamps and lowlands where they were accustomed to wade and feed. The plant-eating swamp-dwellers could not adapt to upthrusting dry land. The flesh eaters lost their source of food when the vegetarians disappeared.

Dinosaur National Monument straddles the Colorado-Utah border. It takes its name from the famous dinosaur graveyard lying within its western edge, where over 1,000,000 pounds of ancient bones have been found.

References—For additional information, see "We Captured a 'Live' Brontosaur," in *The National Geographic Magazine*, May, 1954; "Shooting Rapids in Dinosaur Country," March, 1954; "Big Game Hunting in the Land of Long Ago," May, 1947; "Parade of Life Through the Ages," February, 1942; and "Explorations in the Gobi Desert," June, 1933 (out of print; refer to your library).

Snake-necked Sauropods—Brontosaurs and similar long-necked, long-tailed species were largest of the large in the dinosaur realm. Harmless, they led a placid existence close to their floating diet of swamp vegetation. Venturing ashore, they stampeded into deep water if a flesh-eating enemy approached.

CHARLES R. KNIGHT PAINTING, AMERICAN MUSEUM OF NATURAL HISTORY